REMARKS

1. *Status of the Application.* Claims 1, 3-21, and 23-50 are pending in the application as examined.[1] In the Office Action, claims 1, 4, 6, 7, 10-12, 17-19, 22, 24, 26, 27, 30-32, and 37-39 were rejected under 35 U.S.C. § 102, and claims 3, 5, 8, 9, 13-16, 20, 23, 25, 28, 29, 33-35 and 40 were rejected under 35 U.S.C. § 103. Claims 1 and 21are amended herein. No new matter is added by way of these amendments.

2. *The Section 102 Rejections.* Claims 1, 2, 4, 6, 7, 10-12, 17-19, 21, 22, 24, 26, 27, 30-32, and 37-39 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,163,586 to Zinsmeyer ("*Zinsmeyer*"). The Office Action alleges that each element of the invention recited in claims 1 and 21 is disclosed by *Zinsmeyer*.

It is believed that claims 1 and 21, as amended herein are clearly distinguished from the prior art, including *Zinsmeyer*. As has been noted by Assignee on the record, the claims are believed to capture the essence of the so-called "adaptive metering" functionality of the present invention, which is described in the specification as follows:

> "Since the timing sequences for the opening and closing of solenoid valves can be affected by operating temperature, fluid pressure, flow rate, valve wear, solenoid type (e.g., AC or DC), and other factors, all of which can impact metered volume, dispensing unit 102 maintains ***a real-time log of valve timing, cumulative additive volume injected since a predetermined starting point and target cumulative volume injected. This data is processed by computer-controlled algorithms to enable automatic sensing, correction, and ensuing adjustment of subsequent valve timing and injected volumes to optimize metering accuracy***. In one embodiment, adjustment of valve timing and injected volumes can be based upon assessment of past performance of the metering system and current hydraulic conditions as detected by the various sensors in the hydraulic module. This is referred to as 'adaptive metering' functionality."

Specification, p. 15, lines 2-12 (emphasis added).

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[1] The Office Action suggests that claims 1-50 are pending; however, claims 2 and 22 were canceled in a September 7, 2001 Response to Office Action.

As amended herein, the claims recite a fuel additive dispensing system, and associated method of fuel additive dispensing, in which the operation of a hydraulic module responsible for metering controlled amounts of additive into a fuel stream is controlled based upon data reflecting the operation of the hydraulic module during previous fueling transactions. It is submitted that such functionality is neither taught nor suggested in *Zinsmeyer*.

The Office Action alleges that "the amounts of additive [in *Zinsmeyer*] can be changed easily by changing the mixing ratios in the control computer based on prior reported performance of a particular mixture of additives and fuels...." It is respectfully submitted that this conclusory allegation is not supported by the *Zinsmeyer* disclosure, and mischaracterizes the claimed invention in a critical respect. Whereas the claimed invention involves the use of data about the past performance ***of the hydraulic module***, the Office Action seems to suggest that the amount of additive dispensed is controlled based on the performance "of a particular mixture of additives and fuels." *Zinsmeyer* does appear to propose measurement of the volume of additive dispensed, inasmuch as *Zinsmeyer* states that additive passes through one or more fuel meters "so as to maintain the additive to fuel ratio to the correct preset value for each additive and for each of the two flowing fuels throughout the delivery." *Zinsmeyer*, col. 6, lines 46-49. However, *Zinsmeyer* does not even inferentially disclose correlating data relating to the operation of the metering system during past fueling transactions to the operation of its metering mechanism. That is, in the *Zinsmeyer* system, each fueling transaction is controlled with no reference whatsoever to past fueling transactions.

The Office Action further asserts that *Zinsmeyer* anticipates the claimed invention because it displays "a total measure of volume and cost of delivered fuel, which may be construed as data reflecting actual operation of [the] hydraulic module." Again, this analysis critically mischaracterizes the claimed invention. *Zinsmeyer* may indeed measure and display measured volumes. However, nowhere does *Zinsmeyer* teach or suggest that such data from one fueling transaction influences in any manner whatsoever the operation of its metering system in a subsequent fueling transaction. Indeed, *Zinsmeyer* does not even suggest that the data is recorded at all, let alone used at a later time to control operation of its metering system. Certainly,

Zinsmeyer neither teaches nor suggests comparing any data relating to a plurality of fueling transactions with data corresponding to target operation of a hydraulic module.

As to the remaining § 102 rejections, each remaining claim depends from and further limits either claim 1 or claim 21. In view of the failure of *Zinsmeyer* to teach or suggest the invention of either claim 1 or claim 21, it is submitted that *Zinsmeyer* necessarily fails to teach or suggest the invention of the remaining claims. Reconsideration and withdrawal of the rejection of the dependent claims is therefore also requested.

5. *The Section 103 Rejections*. Claims 3, 5, 8, 9, 13-16, 20, 23, 25, 28, 29, 33-35, and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Zinsmeyer* in view of various other references. As discussed below, the Assignee again respectfully challenges this rejection.

Claims 3, 5, 8, 9, 16, 20, 23, 25, 28, 29, and 40 were rejected as being unpatentable over *Zinsmeyer* in view of U.S. Patent No. 6,052,629 to Leatherman et al. ("*Leatherman*"). According to the Office Action, *Leatherman* discloses a graphics-based, Internet-based fuel dispenser.

It is believed that the Assignee's remarks already of record in this case continue to be applicable to this § 103 rejection, and in particular the remarks made in the Assignee's March 5, 2002 Preliminary Amendment are reiterated here and incorporated herein by reference. Further, it is respectfully submitted that, in view of the clear distinction between the claimed invention and *Zinsmeyer* discussed above, *Leatherman* adds nothing of substance to render the claimed invention obvious. Reconsideration and withdrawal of the § 103 rejection of claims 3, 5, 8, 9, 16, 20, 23, 25, 28, 29, and 40 is therefore requested.

Claims 13-15 and 33-35 were rejected under § 103 as being unpatentable over *Zinsmeyer* in view of *Leatherman* and further in view of U.S. Patent No. 5,596,501 to Comer et al. ("*Comer*"). Again, it is believed that the Assignee's remarks already of record in this case continue to be applicable to this § 103 rejection, and reference is again made to the remarks made in the Assignee's March 5, 2002 Preliminary Amendment. Further, it is respectfully submitted that, in view of the clear distinction between the claimed invention and *Zinsmeyer* discussed above, *Leatherman* and *Comer* collectively add nothing of substance to render the claimed

invention obvious. Reconsideration and withdrawal of the § 103 rejection of claims 13-15 and 33-35 is therefore respectfully requested.

* * * * *

CONCLUSION

In view of the foregoing amendments and remarks, it is believed that each of the pending claims in the present application recites subject matter neither taught nor suggested by the prior art, and that the application as a whole is in proper form and condition for allowance. Reconsideration and withdrawal of the objections and rejections is therefore requested, such that the application may advance to issue at the earliest possible date. If the Examiner believes that the application can be place in even better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Hugh R. Kress
Reg. No. 36,574
WINSTEAD SECHREST & MINICK, P.C.
2400 Bank One Center
910 Travis Street
Houston, Texas 77002
(713) 650-2714(voice)
(713) 650-2400 (fax)

ATTORNEY FOR ASSIGNEE

APPENDIX A

"MARKED-UP" CLAIMS PURSUANT TO 37 C.F.R. § 1.121

1. (thrice amended) A fuel additive dispensing system, comprising:

a housing, adapted to be affixed to a fuel dispenser having a fuel dispensing hose;

a hydraulic module, disposed at least partially within said housing, having a fluid input adapted to be coupled to at least one source of fuel additive and a fluid output flow adapted to be coupled to said fuel dispensing hose to introduce said additive into a stream of fuel delivered through said fuel dispensing hose;

control circuitry, coupled to said hydraulic module, for generating electrical control signals applied to said hydraulic module to cause a controlled amount of said additive to be released from said at least one source to flow through said fluid input and fluid output and into said fuel dispensing hose;

at least one sensor, coupled to said control circuitry and to said hydraulic module, for acquiring data reflecting actual operation of said hydraulic module during a plurality of successive fueling transactions [over time];

processing circuitry, coupled to said at least one sensor, for comparing said data reflecting actual operation of said hydraulic module [over time] during said plurality of successive fueling transactions with data corresponding to target operation of said hydraulic module;

wherein said controlled amount of said additive is adjusted based upon said comparison of data reflecting actual operation of said hydraulic module during said plurality of successive fueling transactions with said data corresponding to target operation of said hydraulic module.

21. (thrice amended) A method of dispensing a fuel additive, comprising:

(c) coupling a fluid input of a hydraulic module to a source of said additive;

(d) coupling a fluid output of said hydraulic module to a fuel dispensing hose;

(c) applying electrical signals to said hydraulic module to cause a controlled amount of said additive to flow from said source, through said hydraulic module, and into said stream of fuel flowing through said fuel dispensing hose;

(d) obtaining measurements of actual performance of said hydraulic module during a plurality of successive fueling transactions;

(e) comparing said measurements of actual performance of said hydraulic module during said plurality of fueling transactions to target values;

wherein said controlled amount of said additive for a subsequent fueling transaction is adjusted based upon said comparison of said measurements of actual performance of said hydraulic module during said plurality of fueling transactions to said target values.

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